# The three "Ls" of photography Light, light and light

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# Introduction

This article is about natural light and outdoor photography. The purpose of this article is to:

- Understand some variables about light that will allow us to use them to our advantage.
- Watch for special situations when we get "killer" light and use them to our advantage.
- Take corrective action when light is causing problems.
- Plan photo opportunities that will provide "best" light.

Our camera sensors capture light that is reflected from objects and surroundings. That light has color and intensity that stimulates the camera sensors and creates photographs. The reflected light that we photograph comes directly from the sun, from the "sky dome" (particularly on overcast days) or from light that reflects back from other objects—like a wall, water or sand.

We are going to discuss these characteristics of light:

- The intensity of the light—basically the range from bright to dull
- Direct vs. diffuse light
- The direction of light: front, side or back
- The angle of the light: high or low
- The contrast of the light
  - Contrast within the primary subject/scene
  - Contrast between the primary subject and surroundings (where applicable)
- The color of the light: neutral, yellow, orange, mauve and more.

These items will be discussed more or less separately, but the many characteristics of light affect photographs in complex ways and can be hard to separate. Some of the photo examples cover two or three traits of light.

# Light intensity and uniformity

Over the years I have noticed that novice photographers have trouble understanding that light intensity has an effect on shutter speeds and brilliance of photos. Light intensity affects shutter speeds, apertures and depth of field. But those are another whole topic that we will cover in another article.

In most cases, the light needs to be bright enough to show off your primary subject or scene. Sunshine, or bright overcast, usually results in brighter, more colourful pictures compared to those taken on dull, overcast days. Of course, some great moody pictures have been taken on dull days. Bright, overhead sun can also ruin pictures if it results in unwanted dark shadows in the primary subject.



northern shoveller. These birds can be photographed on cloudy days and the colors enhanced in post processing, but the best way to show those brilliant color is when the sun shines on the head. The true iridescent colors of these birds can't be duplicated in the computer.

The main reason we need bright light is so the shutter speeds will be fast enough to capture flying birds, running people or other fast-moving subjects. With telephoto lenses we need fast shutter speeds to reduce camera blur that is magnified with powerful lenses.

If the scene or subject is too dull you may have to use a tripod so you can take a long exposure—or return when the light is brighter. In low light, you can use a flash when the subject is close enough to the camera.

I take pictures of birds and other wildlife and without doubt, sunlight (or bright overcast) results in better colors. Yes, you can photograph birds and animals on cloudy days and they turn out well. However, for the brightly coloured species, sunshine is usually preferred. Consider the bright iridescent feathers of a male mallard duck or





The composite photo shows combinations of light intensity and uniformity. (Ignore the sunglasses—it is not a good idea to photograph people wearing sunglasses.)

There are lots of things going on in these photos. The overhead bright sun (upper left) is causing problems. The skin tone is good, but the shadows are harsh and not flattering. In the upper right photo, my wife's face is partially in sun and partially in shade. This is a most difficult and unflattering situation and is to be avoided whenever possible. No amount of Photoshop will correct this adequately. The photo in the lower right was taken with a fill flash and is perhaps the best lighted from a skin tone perspective. However the lighting is harsh. This could have been improved with a soft cover over the flash. The shade photo in lower left is lighted reasonably well, but the skin tones could be better. Brighter shade or bright overcast would have been preferred. You be the judge about which one you'd use.

Point being? Have a look. What type of light are you dealing with? Is it a problem? Can you do something about it? If you move a few meters or face another way will this help the photograph?

# Direct light vs. diffuse light

We talked about light intensity, direct sun and its effect on shutter speeds.

The three photos of the hawk and osprey demonstrate two light features. They compare diffuse (bright overcast) light with direct sunlight. The juvenile Swainson's hawk (left) was photographed on a bright, overcast day. It has pleasing colors and just a hint of shadow under the belly. The two osprey photos were taken on bright, sunny days. In the top photo, the bright sun is far to the right (perpendicular or 90°) resulting in harsh shadows on the face, neck



and backend. (This is exacerbated because of the position of the osprey's head.) These are not overly objectionable and can be reduced in Photoshop. In the bottom photo, the light is somewhat to the left but it is also in front coming over my left shoulder at about 45°. The young osprey is well lighted with no objectionable shadows.

By the way, whereas the diffuse light (in the Swainson's photograph) is pleasing, it would compromise a BIF shot—bird in flight shot. Depending on lens and its maximum aperture, the diffuse light might have resulted in a shutter speed of (say) 1/400 second which is not fast enough for most BIF shots. Yet shooting the osprey in the bright sun (with a fast shutter speed) will be restricted to only one main position—with the sun behind you—and even that will result in some harsh underwing shadows. (Shooting BIFs is another whole story. (2))

Light intensity, position and angle are rarely "perfect" — but we shoot anyway.

# Where is the light coming from?

There are three general positions of the sun: behind you, behind the subject or off to either side of the subject or scene. Of course, it can be at many positions in between the four cardinal positions (front, behind, left or right).

For most photographs, it is usually best to have the sun in front of the primary subject or off to either side. (If you are trying to capture a special effect, then the sun can be behind the primary subject.)

Position of the sun generally does not affect a scene on overcast days because the sky dome is sending light down in relative equally intensities from all angles.



Different subjects will benefit from different sun positions. Look at the mountain cliffs in the composite photograph above. The two cliffs are photographed from the same camera location, but the two cliffs are at right angles to each other. The sun is to the left of cliff A and creates shadows that give the cliff character. However, the sun is hitting Cliff B straight on and there are no shadows to reveal the ruggedness of the cliff. Consider the same light positions with a person's face. The shadows that give character to the rock cliffs can result in objectionable shadows in eye sockets and to the side of the nose.

The flower on the right was photographed from three positions as indicated. Depending on your purpose any could work. The frontlighted shot (upper left) is somewhat boring and the flower does not stand out. But perhaps your object is to capture the flower in its natural habitat. The frontlighted shot (upper right) has high impact. To take this photo I merely moved 2 meters to the right so there was shade from the house in the background. The backlighted photo is a bit more arty and displays the leaf texture.



### Contrast

Contrast of the light is a significant feature and perhaps one that is least understood—or just not considered. Contrast can be within the primary subject/scene such as the previous rock-cliff examples. Or the contrast can be between the primary subject and surroundings. Effective use of contrast is a great tool, especially contrast between the subject and its surroundings.

The sample photos all show effective use of background contrast. The dahlia flowers are lighted and the background in the shade. The short-eared owl is in sunlight and the grass behind is in shade. The gannet was below me in full overhead sun, and the background cliff in total shade. My grandson was bathed in warm, lateday light and the background was in shade.

Naturally shaded backgrounds can result in high-impact images.



Shadows work as dark backgrounds because our eyes see a much wider range of light levels than our cameras see. When I was taking the dahlia photo, my eyes could easily see details in the shadows, but the camera could not. Lucky us. I happen to like photos with dark backgrounds—some don't.



There is one type of great light that I just love. You may have to train yourself to look for this phenomenon. We get it here a few times a year in two general conditions. In summer, we sometimes get a late day thunderstorm followed by sunlight. The foreground is bathed in great warm light and the background is dark clouds—it can be very dramatic. We also see similar light in November and February or March. Sometimes the afternoon sky to the east is filled with gunmetal blue clouds—not storm clouds, just dark clouds.

Contrast that can help can also work against you. Whereas a well-lighted subject with a dark background can work wonders, generally the opposite is not true. Placing your main subject in shade while the background is bathed in bright sunshine will likely result in serious problems. You can use a fill flash to help, however this may not suit your needs.

#### The angle of light

We talked about the position of the light. Light angle is related.

In the two shots of the same hillside you can see the dramatic effect of a low-angle sun. In midday the hills have little character—like the cliff discussed earlier. Yet the same hills at sunset, when the light is low, take on depth as the sun casts shadows.





The shot of my wife with two of our grandchildren incorporates three useful traits of light.

The light is low and the faces are evenly bathed in light with no harsh shadows. The background is in partial shade and is somewhat darker thus adding nice contrast and the faces stand out well.

Whether or not you like "warm" late-day light is a matter of personal taste. I think it works in this photograph.



light through on that side.

This composite picture shows a couple of different things about light. The first is the angle and position of the sun relative to the subject—when the sun is shining. The mule deer in the upper left is lighted in midday by the sun that is high in the sky and to the right. The light is good, but there is harsh shadow on the left of the face and neck. The mule deer in the upper right is lighted by a low setting sun behind me. It is evenly bathed in warm light.

The deer on the bottom is lighted similar to the Swainson's hawk. The head is uniformly lighted, although there is slightly more light coming from the left than right because the sun was to the left and the clouds were letting a bit more

# The color of light and the magic hours

Light has color. Bright midday light is essentially "white." If you take a picture of something that is white in "white" light the photograph will show the object as being, more or less, white. But at other times, that white object may take on other hues.

The composite picture here shows three basic light colors. The upper left



shows a scene in midday under "white" light. That same scene is also shown just before sunset and it is rather orange—you may or may not like this. The lower right photo displays the same warm, orange light whereas the mountain is bathed in pink light moments after sunrise.

This leads us to an interesting development that has arisen with digital photography and our ability to manipulate the light in photos. With the white balance controls in the camera and in digital editing software, there seems to be a movement to making "white" always "white." Certainly the warm light of evening can be too warm, but trying to make white always white sort of goes against the concept of "The Magic Hours." We once talked about those times of day (just after sunrise and just before sunset) when the warm light was magical. Yet, today, I see comments in photography discussions suggesting that white balance should be corrected to make sure the whites are true. I am not so sure about this because it defeats the concept of "The Magic Hours."

The warm colors of the "magic hours" can indeed to be too strong, but they can also be remarkable and changing photograph colors on the computer to force white balance is perhaps a step backward.

# A word about reflected light

Light reflecting from close surroundings onto the primary subject can be your "new best friend.' (Well maybe THAT was contrast. ③) You have, no doubt, seen professional fashion photographers using large round reflective screens during photo shoots.

The composite picture shows two photographs of geese. The one on the left is flying a few meters above snow and the underwings and belly are well lighted from the light reflected up from the snow. The shadows under the winds of the other goose are quite harsh and distracting. There are potentially harsh shadows on the face of the young lad, but light reflected from the bright leaves fill in the shadows.

> The shore bird is in bright light, but there are no strong shadows on the underside because of the light reflected back from the sand.

A word of warning: the reflective surface should be near white or have a neutral hue. Colored surfaces will reflect that color onto the subject.





#### Questions to consider

- Where is the light coming from?
- Is the light quality and position to my advantage?
- Can I make the photograph better by changing positions of me or the subjects?
- If there are problems with light levels, direction or contrast can these be overcome by changing position or technique—or should I try again tomorrow?

Most of the time, you can't control the light conditions, but you can work with them to the best of your ability. For special outdoor photos, you may need to plan the photo session for a time when the light will result in the best desired outcome.

## Close

Understanding the various attributes of light helps us take better photographs. However, we can't get so hung up about light that we don't take photos when the opportunity arises. Even if the light is not 'perfect,' take pictures anyway. If you think you will have another opportunity, then plan to take the photographs again when conditions might be "better." If you are at the Grand Canyon for just two hours and it is overcast and dull, take the pictures anyway. If your daughter is having a birthday party outdoors and the light is too bright or too dull, take the pictures anyway.

There will be a time when you want a specific photograph of a special flower, a specific scene, or your 5-year-old son. When possible, plan the photo shoot when the outdoor light will result in high-quality photographs.

Whatever your subject and goals are, always try to take advantage of the existing light, make adjustments as necessary or plan ahead for another time.